

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: <b>Adendorff et al.</b>	§	Group Art Unit: <b>3624</b>
	§	
Serial No. <b>10/663,345</b>	§	Examiner: <b>Parker, Brandi P.</b>
	§	
Filed: <b>September 15, 2003</b>	§	Customer No.: <b>45725</b>
	§	
For: <b>Monitoring Business Performance</b>	§	
	§	

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**ATTENTION: Board of Patent Appeals and Interferences**

**APPELLANTS' BRIEF (37 C.F.R. § 41.37)**

This Appeal Brief is in furtherance of the Notice of Appeal filed January 15, 2010 (37 C.F.R. § 41.31).

The fees required under § 41.20(b)(2), and any required petition for extension of time for filing this brief and fees therefore, are dealt with in the accompanying Fee Transmittal.

**I. Real Party in Interest**

The real party in interest in this appeal is the following party: International Business Machines Corporation.

**II. Related Appeals and Interferences**

With respect to other appeals and interferences that will directly affect, or be directly affected by, or have a bearing on the Board's decision in the pending appeal, there are no such appeals or interferences.

**III. Status of Claims**

The status of the claims involved in this proceeding is as follows:

1. Claims canceled: 2-6, 10-13, 17-19, 21, 23, 26, 28-32, 36-39, 41-44, 46, 48, 51, and 53-54.
2. Claims withdrawing from consideration but not canceled: NONE
3. Claims pending: 1, 7-9, 14-16, 20, 22, 24, 25, 27, 33-35, 40, 45, 47, 49, 50, 52 and 55.
4. Claims allowed: NONE
5. Claims rejected: 1, 7-9, 14-16, 20, 22, 24, 25, 27, 33-35, 40, 45, 47, 49, 50, 52 and 55.

The claims on appeal are: claims 1, 7-9, 14-16, 20, 22, 24, 25, 27, 33-35, 40, 45, 47, 49, 50, 52 and 55.

#### **IV. Status of Amendments**

No amendments to the application were filed subsequent to mailing of the Final Office Action.

#### **V. Summary of Claimed Subject Matter**

With regard to independent claim 1, a performance monitoring system {e.g., 100 in Figs. 1 or 2; page 2, lines 15-17} is provided. The performance monitoring system comprises a staging area {e.g., 210 in Fig. 2; page 2, lines 15-17; page 6 lines 11-17} receiving data {e.g., 50 in Fig. 1} from one or more data sources {e.g., 280 in Fig. 2; page 2, lines 17-18; page 5, lines 12-19; page 6, line 26 to page 7, line 2; page 7, line 11}. The system further comprises a KPI store {e.g., 230 in Fig. 2; page 2, lines 15-17; page 8, lines 8-11} storing performance information relating to Key Performance Indicators (KPIs) {e.g., page 2, lines 18-20; page 5, lines 20-26} and a loader {e.g., 220 in Fig. 2; page 2, lines 15-17; page 6, lines 18-24} transforming the received data into the performance information relating to the KPIs {e.g., page 2, lines 20-24; page 6, lines 20-22}, calculating scores {e.g., page 6, lines 23-24} based on the received data and the performance information stored in the KPI store to indicate changes in the KPIs such that the scores indicate if associated KPIs are getting better, worse, or is unchanged {e.g., page 12, line 26 to page 13, line 7; page 21, original claims 2 and 3}, and loading the performance information including the scores into the KPI store {e.g., Figure 5; page 13, line 28 to page 14, line 18}. Moreover, the system also comprises an information presentation unit {e.g., 260 in Fig. 2; page 2, lines 24-25; page 8, lines 12-18} presenting the performance information to a user. The information presentation unit has a front-end interface {e.g., 250 in Fig. 2; page 8, lines 13-18} having a data guided monitoring function that receives a user input and presents relevant performance information in a selected order based on the user input to allow the user to monitor and analyze the performance information using the scores {e.g., page 18, lines 6-15; page 18, line 31 to page 19, line 17}. The staging area {e.g., 210 in Fig. 2} receives a target value {e.g., page 10, lines 13-16} and an actual value for a KPI. The loader {e.g., 220 in Fig. 2} calculates a score for the KPI based on the actual value and the target value

to indicate if the KPI is good, bad or neutral compared to the target value {e.g., page 12, line 26 to page 13, line 3; page 21, original claim 4}, and calculates another score by comparing the calculated score and a previously calculated score for a previous comparison of a previous actual value to the target value, the previously calculated score being calculated and stored in the KPI store at a previous loading, so that the another score indicates if the KPI is getting better, worse, or is unchanged {e.g., page 12, lines 26-27; page 13, lines 4-12; page 21, original claims 2 and 3; page 22, original claim 6}.

Regarding independent claim 20, a performance monitoring system {e.g., 100 in Figs. 1 or 2; page 2, lines 15-17} is provided. The system comprises a staging area {e.g., 210 in Fig. 2; page 2, lines 15-17; page 6, lines 11-17} receiving data from one or more data sources {e.g., 280 in Fig. 2; page 2, lines 17-18; page 5, lines 12-19; page 6, line 26 to page 7, line 2; page 7, line 11} and a KPI store {e.g., 230 in Fig. 2; page 2, lines 15-17; page 8, lines 8-11} storing performance information relating to Key Performance Indicators (KPIs) {e.g., page 2, lines 18-20; page 5, lines 20-26}. The system further comprises a loader {e.g., 220 in Fig. 2; page 2, lines 15-17; page 6, lines 18-24} transforming the received data into the performance information relating to the KPIs {e.g., page 2, lines 20-24; page 6, lines 20-22}, and loading the performance information including scores into the KPI store wherein the scores indicate if associated KPIs are getting better or worse or unchanged {e.g., Fig. 5; page 6, lines 23-24; page 12, line 26 to page 13, line 7; page 13, line 28 to page 14, line 18; page 21, original claims 2 and 3}. Furthermore, the system comprises an information presentation unit {e.g., 260 in Fig. 2; page 2, lines 24-25; page 8, lines 12-18} presenting the performance information to a viewer, the information presentation unit having a viewer driven sorter {e.g., 962 in Figure 9; page 3, lines 2-5; page 18, line 31 to page 19, line 7} and/or a viewer driven filter {e.g., 964 in Figure 9; page 19, lines 2-7} allowing the viewer to sort and/or filter the performance information using the scores of all or some of the KPIs stored in the KPI store, wherein the staging area {e.g., 20 in Fig. 2} receives a target value {e.g., page 10, lines 13-16} and an actual value for a KPI, and wherein the loader {e.g., 220 in Fig. 2} calculates a score for the KPI based on the actual value and the target value to indicate if the KPI is good, bad or neutral compared to the target value {e.g., page 12, line 26 to page 13, line 3; page 21, original claim 4}, and calculates another score by comparing the calculated score and a previously calculated score for a previous

comparison of a previous actual value to the target value, the previously calculated score being calculated and stored in the KPI store at a previous loading, so that the another score indicates if the KPI is getting better, worse, or is unchanged {e.g., **page 12, lines 26-27; page 13, lines 4-12; page 21, original claims 2 and 3; page 22, original claim 6**}.

Regarding independent claim 27, a method of monitoring business performance is provided. The method comprises receiving data from one or more data sources {e.g., **280 in Fig. 2; page 2, lines 17-18; page 3, lines 7-8; page 5, lines 12-19; page 6, line 26 to page 7, line 2; page 7, line 11**} and transforming the received data into performance information relating to Key Performance Indicators (KPIs) {e.g., **page 2, lines 20-24; page 3, lines 8-10; page 6, lines 20-22**}. The method further comprises storing the performance information into a KPI store {e.g., **230 in Fig. 2; page 2, lines 15-17; page 3, line 10; page 8, lines 8-11**} and calculating scores {e.g., **page 6, lines 23-24**} based on the received data and the performance information stored in the KPI store to indicate changes in the KPIs {e.g., **page 3, lines 10-12**} such that the scores indicate if associated KPIs are getting better or worse or unchanged {e.g., **page 12, line 26 to page 13, line 7; page 21, original claims 2 and 3**}. Moreover, the method comprises loading the performance information including the scores into the KPI store {e.g., **Figure 5; page 3, lines 12-13; page 13, line 28 to page 14, line 18**}, receiving a user input {"Business Users", "Business Analysts", or "IT Personnel" in **Figure 9**}, and presenting the performance information to a user {e.g., **page 3, lines 13-14**} in a selected order based on the user input, using relevant KPIs sorted and/or filtered based on a selected type of scores of the KPIs, to allow the user to monitor and analyze the performance information using the scores {e.g., **page 18, lines 6-15; page 18, line 31 to page 19, line 17**}. Receiving data comprises receiving a target value {e.g.; **page 10, lines 13-16**} and an actual value for a KPI, and wherein calculating scores comprises calculating a score for the KPI based on the actual value and the target value to indicate if the KPI is good, bad or neutral compared to the target value {e.g., **page 12, line 26 to page 13, line 3; page 21, original claim 4**}, and calculating another score by comparing the calculated score and a previously calculated score for a previous comparison of a previous actual value to the target value, the previously calculated score being calculated and stored in the KPI store at a previous loading, so that the another score indicates if the KPI is getting better, worse,

or is unchanged {e.g., page 12, lines 26-27; page 13, lines 4-12; page 21, original claims 2 and 3; page 22, original claim 6}.

With regard to independent claim 45, a method of monitoring performance is provided that comprises receiving data from one or more data sources {e.g., 280 in Fig. 2; page 2, lines 17-18; page 3, lines 7-8; page 5, lines 12-19; page 6, line 26 to page 7, line 2; page 7, line 11}, storing, in a KPI store, performance information relating to Key Performance Indicators (KPIs) {e.g., 230 in Fig. 2; page 2, lines 15-17; page 3, line 10; page 8, lines 8-11}, and transforming the received data into the performance information relating to the KPIs {e.g., page 2, lines 20-24; page 3, lines 8-10; page 6, lines 20-22}. The method further comprises loading the performance information including scores into the KPI store {e.g., Figure 5; page 3, lines 12-13; page 13, line 28 to page 14, line 18} wherein the scores indicate if associated KPIs are getting better or worse or unchanged {e.g., page 12, lines 26-27; page 13, lines 4-12; page 21, original claims 2 and 3; page 22, original claim 6}. In addition, the method comprises presenting the performance information to a viewer {e.g., page 3, lines 13-14}, allowing the viewer to sort and/or filter the performance information using the scores of all or some of the KPIs stored in the KPI store {e.g., page 18, lines 6-15; page 18, line 31 to page 19, line 17}. Receiving data comprises receiving a target value {e.g., page 10, lines 13-16} and an actual value for a KPI, and wherein transforming the received data comprises calculating a score for the KPI based on the actual value and the target value to indicate if the KPI is good, bad or neutral compared to the target value {e.g., page 12, line 26 to page 13, line 3; page 21, original claim 4}, and calculating another score by comparing the calculated score and a previously calculated score for a previous comparison of a previous actual value to the target value, the previously calculated score being calculated and stored in the KPI store at a previous loading, so that the another score indicates if the KPI is getting better, worse, or is unchanged {e.g., page 12, lines 26-27; page 13, lines 4-12; page 21, original claims 2 and 3; page 22, original claim 6}.

In regard to independent claim 52, a computer readable medium storing the instructions and/or statements for use in the execution in a computer of a method of monitoring business performance is provided. The method that is executed comprises receiving data from one or more data sources {e.g., 280 in Fig. 2; page 2, lines 17-18, page 3, lines 7-8; page 5, lines 12-19; page 6, line 26 to page 7, line 2; page 7, line 11}, transforming the received data into

performance information relating to Key Performance Indicators (KPIs) {e.g., page 2, lines 20-24; page 3, lines 8-10; page 6, lines 20-22}, and storing the performance information into a KPI store {e.g., 230 in Fig. 2; page 2, lines 15-17; page 3, line 10; page 8, lines 8-11}. The method further comprises calculating scores {e.g., page 6, lines 23-24} based on the received data and the performance information stored in the KPI store to indicate changes in the KPIs {e.g., page 3, lines 10-12} such that the scores indicate if associated KPIs are getting better or worse or unchanged {e.g., page 12, line 26 to page 13, line 7; page 21, original claims 2 and 3}, and loading the performance information including the scores into the KPI store {e.g., Fig. 5; page 3, lines 12-13; page 13, line 28 to page 14, line 18}. The method further comprises receiving a user input {"Business Users", "Business Analysts", or "IT Personnel" in Fig. 9} and presenting the performance information to a user {e.g., page 3, lines 13-14} in a selected order based on the user input, using relevant KPIs sorted and/or filtered based on a selected type of scores of the KPIs so as to allow the user to monitor and analyze the performance information using the scores {e.g., page 18, lines 6-15; page 18, line 31 to page 19, line 17}. Receiving data comprises receiving a target value {e.g., page 10, lines 13-16} and an actual value for a KPI, and wherein calculating scores comprises calculating a score for the KPI based on the actual value and the target value to indicate if the KPI is good, bad or neutral compared to the target value {e.g., page 12, line 26 to page 13, line 3; page 21, original claim 4}, and calculating another score by comparing the calculated score and a previously calculated score for a previous comparison of a previous actual value to the target value, the previously calculated score being calculated and stored in the KPI store at a previous loading, so that the another score indicates if the KPI is getting better, worse, or is unchanged {e.g., page 12, lines 26-27; page 13, lines 4-12; page 21, original claims 2 and 3; page 22, original claim 6}.

## **VI. Grounds of Rejection to be Reviewed on Appeal**

The grounds of rejection to be reviewed on appeal are:

(1) the rejection of claims 1, 7-9, 20, 27, 33-35, 45, and 52 under 35 U.S.C. §103(a) as being allegedly unpatentable over Thompson et al. (U.S. Patent No. 6,668,253) in view of Sands (WO 01/88769); and

(2) the rejection of claims 14-16, 22, 24-25, 40, 47, 49-50, and 55 under 35 U.S.C. § 103(a) as being allegedly unpatentable over Thompson et al. (U.S. Patent No. 6,668,253) in view of Sands (WO 01/88769), and further in view of Pokorny (U.S. Patent Application Publication No. 2003/0150908).

## **VII. Argument**

### **A. Rejection under 35 U.S.C. § 103(a) Based on Thompson and Sands**

The Final Office Action rejects claims 1, 7-9, 20, 27, 33-35, 45, and 52 under 35 U.S.C. § 103(a) as being allegedly unpatentable over Thompson et al. (U.S. Patent No. 6,668,253) in view of Sands (WO 01/88769). This rejection is respectfully traversed.

#### **1. Independent Claims 1, 20, 27, 45, and 52**

Independent claim 1, which is representative of the other rejected independent claims 20, 27, 45 and 52 with regard to similarly recited subject matter, reads as follows:

1. A performance monitoring system comprising:
  - a staging area receiving data from one or more data sources;
  - a KPI store storing performance information relating to Key Performance Indicators (KPIs);
  - a loader transforming the received data into the performance information relating to the KPIs, calculating scores based on the received data and the performance information stored in the KPI store to indicate changes in the KPIs such that the scores indicate if associated KPIs are getting better, worse, or is unchanged, and loading the performance information including the scores into the KPI store; and
  - an information presentation unit presenting the performance information to a user, wherein the information presentation unit has a front-end interface having a data guided monitoring function that receives a user input and presents relevant performance information in a selected order based on the user input to allow the user to monitor and analyze the performance information using the scores, wherein the staging area receives a target value and an actual value for a KPI, and *wherein the loader calculates a score for the KPI based on the actual value and*



*the target value to indicate if the KPI is good, bad or neutral compared to the target value, and calculates another score by comparing the calculated score and a previously calculated score for a previous comparison of a previous actual value to the target value, the previously calculated score being calculated and stored in the KPI store at a previous loading, so that the another score indicates if the KPI is getting better, worse, or is unchanged.* (emphasis added)

Appellants respectfully submit that neither Thompson nor Sands, either alone or in combination, teaches or renders obvious at least those features of claim 1, and the similar features in the other independent claims, emphasized above.

The Final Office Action admits that Thompson does not teach these features (see Final Office Action, pages 4-5) but alleges that Sands teaches these features. Thus, the issue is whether Sands teaches or makes these features obvious in view of Thompson. Appellants respectfully submit that Sands does not.

Sands is directed to a mechanism for monitoring the performance of a business by calculating actual output values and budgeted output values for measured input values at a unit, component, or sub-component level. The budgeted output values are determined from key performance indicators using suitable models for the specific activity. Values are converted to a common unit system, e.g., dollars. A deviation between the actual output value and the budgeted output value is calculated, stored, and summed at each level. The total deviation across the business is compared to a threshold. If the total deviation is unacceptable, the stored data is mined to identify the source of the variation (see Abstract of Sands).

Thus, Sands is concerned with a particular point in time, i.e. at this particular time, the deviation between the actual output value and the budgeted output value is X, the total of the deviations for the entire business is Y, and Y is greater than a threshold Z so data mining is performed to identify a source of the variation. Sands is not concerned at all with whether a trend of a key performance indicator (KPI) indicates that the KPI is getting better, worse, or not changing, let alone calculating such a trend based on scores in the manner recited in the independent claims. That is, nowhere in Sands is there any teaching, or even technical rationale, provided for implementing in Sands the features of a loader calculating a score for a KPI based on the actual value and the target value to indicate if the KPI is good, bad or neutral compared to the target value, *and comparing the calculated score and a previously calculated score for a*

*previous comparison of a previous actual value to the target value, the previously calculated score being calculated and stored in the KPI store at a previous loading, so that the another score indicates if the KPI is getting better, worse, or is unchanged.* To the contrary, as stated above, Sands only looks at a single instance in time and is not concerned with whether there is a trend of the KPI getting better, worse, or is unchanged.

The Final Office Action points to page 8, lines 19-20 and page 10, line 28 to page 11, line 6 of Sands as allegedly teaching these features of the independent claims. The paragraphs in which these sections of Sands are provided are reproduced below:

Another representation of the same structure is shown in FIG 2, but highlighting the hierarchical structure of a business. The performance measured by each KPI is an accumulative measure of overall performance of the business. Thus, referring to FIG 3, for each KPI the actual output  $Z_i$  is monitored relative to the actual input  $X_i$ . A budget value  $B_i$  is calculated from the actual input  $X_i$  for each KPI. The difference between the budget value  $B_i$  and the actual output value  $Z_i$  is an indication of the efficiency.  
(page 8, lines 13-20)

The method depicted in FIG 4 also provides for a global measure of efficiency  $G$  to be determined by calculating the difference between the summed total  $B_{i,tot}$  of the individual budget outputs  $B_i$  and the summed total  $W_{i,tot}$  of the converted actual outputs  $W_i$ . The global efficiency value  $G$  is compared to a threshold  $T$  which may be the same threshold as discussed above. If the value  $G$  is greater than the threshold  $T$  the stored deviation data is mined to identify the problem component or sub-component. Efficiency values  $G$  can be determined at each level within the business, depending on the level of management adopted.  
(page 10, line 28 to page 11, line 6)

By the citing of these sections of Sands, it is Appellants' understanding that the Examiner is reading the actual output value  $Z_i$  in Sands to be equivalent to the "actual value" recited in independent claim 1, and the budget value  $B_i$  to be equivalent to the "target value" recited in independent claim 1. Based on such an interpretation, page 8, lines 13-20 teaches calculating a difference value based on a difference between the "actual value" and the "target value." However, for Sands to teach the feature of calculating another score by "comparing the calculated score and a previously calculated score for a previous comparison of a previous actual value to the target value, the previously calculated score being calculated and stored in the KPI

store at a previous loading, so that the another score indicates if the KPI is getting better, worse, or is unchanged” in claim 1, Sands would need to further teach comparing the difference value generated in Sands with previously calculated difference values for previous comparisons of the  $B_i$  to  $Z_i$  and then generating a score based on this comparison which is then used to indicate whether a KPI is getting better, worse, or is unchanged. Nowhere in the cited sections of Sands, or anywhere else is there any teaching or technical rationale provided to do so.

To the contrary, the section of Sands that is cited as allegedly teaching these features (pages 10-11 of Sands; see Final Office Action, page 5) merely describes calculating a global efficiency value  $G$  based on the totals of  $B_i$  and  $W_i$  for all of the KPIs. These are not  $B_i$ s or  $W_i$ s for previous comparisons being compared to current  $B_i$ s or  $W_i$ s or even current scores being compared to previous scores, but merely a summation of the  $B_i$ s and  $W_i$ s (where  $W_i$  is merely the normalized version of the  $B_i$ s so that a common unit is utilized, e.g., a common currency of dollars). Nowhere in this section or anywhere else in Sands is there any teaching to calculate another score by “comparing the calculated score and a previously calculated score for a previous comparison of a previous actual value to the target value, the previously calculated score being calculated and stored in the KPI store at a previous loading, so that the another score indicates if the KPI is getting better, worse, or is unchanged,” as recited in claim 1, or the similar features found in the other independent claims.

In view of the above, Appellants respectfully submit that neither Thompson nor Sands, either alone or in combination, teach or render obvious the features of independent claims 1, 20, 27, 45, and 52. At least by virtue of their dependency on their respective independent claims, the alleged combination of Thompson and Sands further fails to teach or render obvious the features of dependent claims 7-9 and 33-35.

## **2. Examiner’s Response and Appellants’ Rebuttal**

In response to the above arguments, the Examiner alleges that “Sands teaches simulating changes to the performance and controllable parameters of the model to determine the impact on the overall performance of the business (page/line 4/17-23). Furthermore Sands teaches a global deviation, which takes into account previous actual values and deviations (page/line 4/5-12).”

Page 4, lines 5-12 of Sands (which is a reproduction of a claim) does mention taking into

account “actual values” and deviations, not “previous” actual values, despite the allegations raised by the Examiner. The “deviation” mentioned in Sands is the deviation of a target value from an actual value (see page 4, lines 2-6). Sands also teaches summing the actual values and the deviations to provide a global measure of performance of the business in terms of a global actual value and a global deviation so that a significant global deviation can be tracked to one or more contributing key performance indicators (see page 4, lines 7-12). Thus, in actuality Sands, as discussed above by Appellants, is concerned with the current state of the actual values and deviations.

Sands also teaches that determining the target value involves selecting an appropriate model, setting parameters for the model and calculating a target value from an input value. Sands further teaches to simulate changes to performance and controllable parameters of a model for each section of the business to determine the impact on the overall performance of the business and determining risk exposure to the business through such simulation of uncontrollable parameters of the model (see page 4, lines 13-30). While Sands teaches to perform simulations using model, these are simulations and Sands still does not teach or render obvious the features of calculating a score for KPI based on actual value and a target value and then comparing that score for the KPI to a previously calculated score to determine if the KPI is getting better, worse, or is unchanged. Sands only teaches simulating the effects of controllable and uncontrollable parameters on overall performance of a business using models representing target values.

Sands never looks at a history or “previous” actual values and deviations, despite the Examiner’s allegations that it does. Sands certainly does not teach, or give any technical rationale for implementing, a feature of calculating a score by comparing a calculated score and a previously calculated score for a previous comparison of a previous actual value to the target value, the previously calculated score being calculated and stored in a KPI store at a previous loading, so that the score indicates if the KPI is getting better, worse, or is unchanged. At most, even the Examiner’s own citations to Sands shows that Sands only teaches looking at current actual and target values with the target values being determined using a selected model and simulation.

Thus, for at least the reasons set forth above, Appellants respectfully submit that the alleged combination of Thompson and Sands does not teach or render obvious the specific features set forth in claim 1. Moreover, the alleged combination fails to teach or render obvious

the similar features found in the other rejected independent claims 20, 27, 45 and 52. At least by virtue of their dependency on respective ones of claims 1, 20, 27, 45, and 52, the alleged combination of Thompson and Sands fails to teach or render obvious the features of dependent claims 7-9 and 33-35. Accordingly, Appellants respectfully request that the Board of Patent Appeals and Interferences overturn the rejections of claims 1, 7-9, 20, 27, 33-35, 45, and 52 under 35 U.S.C. § 103(a) in the Final Office Action.

### **3. Dependent Claims 9 and 35**

In addition, the alleged combination of Thompson and Sands further fails to teach or render obvious the specific features recited in dependent claims 9 and 35. For example, with regard to claims 9 and 35, Thompson and Sands fail to teach or render obvious the features of the staging area containing value information for the KPIs and time information relating to one or more time periods to which the value information is applied; the loader having a function to determine which KPI is affected by a change in the value information; and the KPI store being capable of storing the value information in association with the time information in a relational cube having the time and indicator dimensions, actual values, target values, and score values for the KPIs, and business metadata as a network of content of the metadata. There is not even a mention anywhere in Thompson or Sands of storing time information with value information for KPIs or storing the value information in association with time information in a relational cube as specified in these claims.

The Final Office Action alleges that these features are taught by Thompson in Figure 23 and at column 32, lines 39-49. Figure 23 of Thompson is provided hereafter in the Evidence Appendix and column 32, lines 39-49 of Thompson read as follows:

Meta Data is “data about data.” Meta Data provides a blueprint to users that detail the data. Meta Data also includes information regarding the common algorithms used in summarizing or processing data before it was integrated into the warehouse, the structure and formatting of the data to be published and actual volumes of data by major dimensions. Sagent and Microstrategy have their own Meta Data repositories therefore EIM provides a signal point of entry to ensure a seamless interface for end-users. In addition to the Meta Data provided by the third party tools, EIM provides two types of Meta Data; Technical and Business.

All these portions of Thompson teach is that the system can have technical and business metadata and that metadata is “data about data.” There is nothing in this section that teaches any of the specific features of claims 9 and 35. Other than using the term “metadata,” this section of Thompson has nothing to do with claims 9 and 35. Appellants are not claiming to have invented “metadata” but rather, the specific set of features recited in claims 9 and 35. Merely citing a portion of the reference that uses the same term, i.e. “metadata,” does not provide a prima facie case of obviousness since it does not actually address the specific features of the claim, i.e. (1) a staging area containing value information for the KPIs *and time information relating to one or more time periods to which the value information is applied*; (2) a loader having a function to determine which KPI is affected by a change in the value information; and (3) a KPI store being capable of storing the value information *in association with the time information in a relational cube having the time and indicator dimensions, actual values, target values, and score values for the KPIs, and business metadata as a network of content of the metadata*.

Out of all these features, all that the Examiner has allegedly found is business metadata and determining which KPI is affected by a change (by alleged modification due to Sands) - none of the other features of the claim are addressed by the citation to Thompson provided by the Examiner. Thus, Appellants respectfully submit that the alleged combination of references in fact fails to teach or render obvious the features of claims 9 and 35. Accordingly, Appellants respectfully request that the Board of Patent Appeals and Interferences overturn the rejection of claims 9 and 35 under 35 U.S.C. § 103(a).

**B. Rejection under 35 U.S.C. § 103(a) Based on Thompson, Sands and Pokorny**

The Final Office Action rejects claims 14-16, 22, 24-25, 40, 47, 49-50, and 55 under 35 U.S.C. § 103(a) as being allegedly unpatentable over Thompson et al. (U.S. Patent No. 6,668,253) in view of Sands (WO 01/88769), and further in view of Pokorny (U.S. Patent Application No. 2003/0150908). This rejection is respectfully traversed.

## **1. Claims Distinguished by Dependency**

This rejection is respectfully traversed for at least the same reasons as noted above with regard to the independent claims from which claims 14-16, 22, 24-25, 40, 47, 49-50, and 55 depend. That is, neither Thompson nor Sands, either alone or in combination, teach or render obvious the features of the independent claims which are incorporated into these dependent claims by virtue of their dependency. Moreover, Pokorny does not provide any teaching or technical rationale to implement the features of the claims that have been shown above to not be taught by the Thompson and Sands references.

Thus, any alleged combination of Pokorny with Thompson and Sands would not render obvious the invention recited in the independent claims, and therefore, the dependent claims at least by virtue of their dependency. Furthermore, the alleged combination of references does not in fact teach or render obvious the specific features of these dependent claims.

## **2. Specific Features of Claims 14 and 55**

The citation of Pokorny in the alleged combination is primarily directed to allegedly addressing the features of claims 14 and 55. With regard to claims 14 and 55, the Final Office Action admits that Thompson and Sands fails to teach allowing annotations to the performance information of KPIs. However, Pokorny is cited by the Final Office Action (page 7, item 11) for allegedly teaching an information presentation unit that has a front-end interface which has a function that allows a user to add or modify annotations in the performance information and store those annotations in a KPI store (the Final Office Action cites paragraphs [0056] and [0096] of Pokorny). Paragraph [0056] of Pokorny teaches that an online production document system is provided in which KPIs are identified and the output of the production document system is modified to track and generate KPIs along with integrating the KPIs into a financial report. Paragraph [0096] of Pokorny teaches that a user may add comments to event records.

Thus, in actuality, Pokorny teaches a user interface for annotating event records to identify reasons for machine delays. This is the first occurrence of the term "event records" in the detailed description of Pokorny and thus, it is not clear what these "event records" are. However, nowhere in Pokorny is there any teaching to actually annotate performance information

for KPIs stored in a KPI store. Therefore, contrary to the allegations raised in the Final Office Action, the alleged combination of Thompson, Sands, and Pokorny fails to teach or render obvious the specific features of claim 14 and 55.

### 3. Specific Features of Claims 15 and 40

For example, with regard to claims 15 and 40, the cited combination of references fails to teach that “the data guided monitoring function presents the performance information of a selected KPI *together with related KPIs which are in a cause and effect relation with the selected KPI, and presents the performance information of related KPIs in a diagram to navigate the user through the related KPIs*” (emphasis added). The Final Office Action alleges that these features are taught by Thompson at column 9, lines 1-31 which reads as follows:

#### Flexible Presentation

In some preferred embodiments, EIM provides multiple ways in which a user can access and view information. In addition to the Home Page defined above, reports and graphs can also be displayed in full screen mode (see FIG. 4 which shows an example of a full-screen mode with exception test view according to embodiments of this invention). This is the default representation for any report not displayed on a Home page.

While viewing a Home page, a user can choose to take any of the reports to full screen mode by clicking the window expansion icon located in the right corner of the reports title. Results can be viewed in either “Grid” or “Graph” mode. Users can switch from one to the other format simply by clicking the appropriate button on the toolbar.

Reports can be printed as they appear on the screen. The reports will print to the users default printer as identified by Windows™. Additionally, any reports results can be exported to a number of formats including Microsoft Excel™.

The properties of a report can be changed dynamically by the user by right clicking on the report element to be changed. Updating fonts, colors, titles, and legends is achieved through standard Windows dialog boxes. The reports can then be saved so that changes will not be lost (see Saving New or Modified Reports). Reports can also be sorted dynamically in this fashion as well. Right-clicking on a data column and selecting the sorting option will sort the data on the report, maintaining any formatting previously established for the report.



It is not at all clear how allowing a user to change fonts, colors, titles, and legends of a graph or grid report, or even sorting columns of data, somehow teaches the very specific feature of a data guided monitoring function presenting *performance information of a selected KPI together with related KPIs which are in a cause and effect relation with the selected KPI*, or *presenting the performance information of related KPIs in a diagram to navigate the user through the related KPIs*. This section of Thompson, other than merely teaching reports in general, has nothing to do with the specific features of claims 15 and 40. The Examiner has failed to show where, in any of the cited references, there is any teaching of determining which KPIs are in a cause and effect relationship with each other, let alone presenting performance information of a selected KPI together with related KPIs which are in a cause and effect relationship with the selected KPI.

Thus, the Final Office Action has failed to establish a prima facie case of obviousness with regard to the specific features of claims 15 and 40. Accordingly, Appellants respectfully request that the Board of Patent Appeals and Interferences overturn the rejection of claims 15 and 40 under 35 U.S.C. § 103(a).

#### **4. Specific Features of Claims 16, 22, 24-25, 47, and 49-50**

In addition, with regard to claims 16, 22, 24-25, 47, and 49-50, the Final Office Action merely states at page 8, item 13:

Regarding claims 16, 22, 24-25, 47, and 49-50, Thompson and Sands in view of Pokorny teaches the performance monitoring system as claimed in claim 15. Thompson further teaches the data guided monitoring function has a function that presents the performance information for relevant KPIs sorted based on a selection type of scores, and/or presents the performance information for relevant KPIs filtered and sorted based on the scores of the KPIs (column/line 10/1-6).

Column 10, lines 1-6 of Thompson reads as follows:

EIM provides the ability to create user definable parameters for querying the data warehouse and filtering information. These filters provide the report with parameters to narrow the selection of data displayed. The user can be

automatically prompted to provide values for these parameters or the filter can have pre-defined values established.

It is not at all clear how these three statements in Thompson somehow teach the very specific features of (1) “the data guided monitoring function has a function that presents the performance information for relevant KPIs sorted based on a selected type of scores, and presents the performance information for relevant KPIs filtered and sorted based on the scores of the KPIs,” as recited in claim 16; (2) “the information presentation unit has a function that presents multiple view metric types, and has a metric selector that allows the viewer to select a preferred view metric type to present sorted and filtered performance information,” as recited in claim 24 and similar feature in claim 49; or (3) “the loader has a function that calculates scores based on the received data and the performance information stored in the KPI store to indicate changes in the KPIs, and the viewer driven sorter and filter has a function that sorts and filters the performance information based on the scores calculated based on the changes in the KPIs,” as recited in claim 25 and similar feature in claim 50.

**a. Claims 16, 22, and 47**

Merely teaching filters for narrowing data displayed from request of queries on a data warehouse does not provide any teaching or technical rational to implement the particular features recited in these claims. Where in the general idea of using filters to narrow data displayed, is there any teaching or technical rationale provided for specifically presenting performance information for KPIs sorted based on a selected type of score or presenting the performance information for the KPIs filtered and sorted based on the scores of the KPIs?

Thompson teaches that filters can be used to take data received from a data warehouse and narrow the data that is displayed. Nowhere in Thompson is there any teaching or suggestion to apply such filtering to scores calculated for KPIs, let alone filtering performance information for relevant KPIs based on a selected type of score or presenting the performance information for KPIs filtered and sorted based on these cores of the KPIs. Moreover, Sands, while teaching KPIs, does not provide any teaching or suggestion to filter performance information for KPIs, let alone filtering such performance information based on a selected type of score or presenting the

performance information for the KPIs filtered and sorted based on the scores of the KPIs. Furthermore, the features of annotating event records in Pokorny does not provide any teaching or technical rationale to implement such filtering and sorting features, as recited in claim 16, either. Thus, again, the Final Office Action has failed to establish a prima facie case of obviousness.

Similar considerations apply to claims 22 and 47 which recite similar annotation features.

**b. Claims 24 and 49**

Similarly, merely providing a general teaching of being able to filter data does not render obvious the specific features of an information presentation unit having a function that presents multiple view metric types, and has a metric selector that allows the viewer to select a preferred view metric type to present sorted and filtered performance information, as recited in claims 24 and 49. The features of presenting multiple view metric types and having a metric selector are not even addressed by the Final Office Action. To the contrary, rather than actually finding these features in any of the cited references, or even offering a reasoned argument why such features might be added to the alleged combination of references, the Final Office Action simply ignores these features altogether other than to simply lump the claim numbers in the same listing as claims 16, 22, 25, 47, and 50. The Final Office Action has failed to establish a prima facie case of obviousness with regard to these features since the Final Office Action fails to even address these specific features.

**c. Claims 25 and 50**

In a like manner, the alleged teaching or providing the ability to filter data retrieved from a data warehouse also fails to teach or render obvious the specific features of a loader having a function that calculates scores based on the received data and performance information stored in a KPI store to indicate changes in the KPIs, and a viewer driven sorter and filter has a function that sorts and filters the performance information based on the scores calculated based on the changes in the KPIs. As noted above, while Thompson may teach filtering in general, there is nothing in Thompson that teaches to perform the specific filtering and sorting of performance

information for KPIs, as recited in claims 25 and 50, with regard to scores calculated based on changes in the KPIs.

Again, the Final Office Action seems to rely on its allegation that because Thompson generally teaches filtering data that somehow that obviates all possible filtering that may be done on any data of any type. This overstates the teaching of Thompson and unreasonably expands the alleged teaching of Thompson. One must look at the actual teachings of the references and determine whether one of ordinary skill in the art, at the time the invention was made, would have found it obvious to combine Thompson with Sands and Pokorny such that there would be filtering and sorting of performance information for KPIs based on scores calculated based on changes in KPIs.

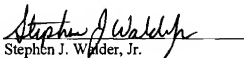
Thompson certainly does not teach or suggest such features since Thompson is concerned with filtering data retrieved from queries to data warehouses and does not provide any specific application of this to KPIs or performance information of KPIs, let alone filtering and sorting such performance information according to scores calculated based on changes in the KPIs. Sands certainly does not teach or suggest this either since Sands makes no mention anywhere regarding filtering or sorting any KPI performance information, let alone doing so based on scores calculated based on changes in KPIs. Pokorny also does not teach or suggest such features and is cited simply for allegedly providing an annotation ability.

Thus, contrary to the allegations made in the Final Office Action, the alleged combination of references, in actuality, does not teach or render obvious the specific features of dependent claims 16, 22, 24-25, 47, and 49-50. Accordingly, Appellants respectfully request that the Board of Patent Appeals and Interferences overturn the rejections of claims 16, 22, 24-25, 47, and 49-50 under 35 U.S.C. § 103(a) as set forth in the Final Office Action.

### **VIII. Conclusion**

In view of the above, Appellants respectfully submit that the features of claims 1, 7-9, 14-16, 20, 22, 24, 25, 27, 33-35, 40, 45, 47, 49, 50, 52 and 55 are not taught or rendered obvious by the alleged combinations of references. Accordingly, Appellants request that the Board of Patent Appeals and Interferences overturn the rejections set forth in the Final Office Action.

Respectfully submitted,



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## **CLAIMS APPENDIX**

1. A performance monitoring system comprising:

a staging area receiving data from one or more data sources;

a KPI store storing performance information relating to Key Performance Indicators (KPIs);

a loader transforming the received data into the performance information relating to the KPIs, calculating scores based on the received data and the performance information stored in the KPI store to indicate changes in the KPIs such that the scores indicate if associated KPIs are getting better, worse, or is unchanged, and loading the performance information including the scores into the KPI store; and

an information presentation unit presenting the performance information to a user, wherein the information presentation unit has a front-end interface having a data guided monitoring function that receives a user input and presents relevant performance information in a selected order based on the user input to allow the user to monitor and analyze the performance information using the scores, wherein the staging area receives a target value and an actual value for a KPI, and wherein the loader calculates a score for the KPI based on the actual value and the target value to indicate if the KPI is good, bad or neutral compared to the target value, and calculates another score by comparing the calculated score and a previously calculated score for a previous comparison of a previous actual value to the target value, the previously calculated score being calculated and stored in the KPI store at a previous loading, so that the another score indicates if the KPI is getting better, worse, or is unchanged.

7. The performance monitoring system as claimed in claim 1, wherein the information presentation unit has a function that presents a higher level of the performance information in a form capable of breaking down into a lower level of performance information.
8. The performance monitoring system as claimed in claim 1, wherein the staging area provides to the loader, data that has changed from a last loading.
9. The performance monitoring system as claimed in claim 1, wherein:  
the staging area contains value information for the KPIs and time information relating to one or more time periods to which the value information is applied;  
the loader has a function to determine which KPI is affected by a change in the value information; and  
the KPI store is capable of storing the value information in association with the time information in a relational cube having the time and indicator dimensions, actual values, target values, and score values for the KPIs, and business metadata as a network of content of the metadata.
14. The performance monitoring system as claimed in claim 1, wherein the information presentation unit comprises:  
an application server accessing and managing the performance information stored in the KPI store, wherein the front-end interface has a function that allows a user to add to or modify annotation in the performance information, and wherein the KPI store stores the annotation.

15. The performance monitoring system as claimed in claim 1, wherein the data guided monitoring function presents the performance information of a selected KPI together with related KPIs which are in a cause and effect relation with the selected KPI, and presents the performance information of related KPIs in a diagram to navigate the user through the related KPIs.

16. The performance monitoring system as claimed in claim 15, wherein the data guided monitoring function has a function that presents the performance information for relevant KPIs sorted based on a selected type of scores, and presents the performance information for relevant KPIs filtered and sorted based on the scores of the KPIs.

20. A performance monitoring system comprising:

a staging area receiving data from one or more data sources;

a KPI store storing performance information relating to Key Performance Indicators (KPIs);

a loader transforming the received data into the performance information relating to the KPIs, and loading the performance information including scores into the KPI store wherein the scores indicate if associated KPIs are getting better or worse or unchanged; and

an information presentation unit presenting the performance information to a viewer, the information presentation unit having a viewer driven sorter and/or a viewer driven filter allowing the viewer to sort and/or filter the performance information using the scores of all or some of the KPIs stored in the KPI store, wherein the staging area receives a target value and an actual value for a KPI, and wherein the loader calculates a score for the KPI based on the actual value and the target value to indicate if the KPI is good, bad or neutral compared to the target value, and



calculates another score by comparing the calculated score and a previously calculated score for a previous comparison of a previous actual value to the target value, the previously calculated score being calculated and stored in the KPI store at a previous loading, so that the another score indicates if the KPI is getting better, worse, or is unchanged.

22. The performance monitoring system as claimed in claim 20, wherein the information presentation unit has a function that allows the viewer to add to or modify annotation in the performance, and the KPI store stores the annotation.

24. The performance monitoring system as claimed in claim 22, wherein the information presentation unit has a function that presents multiple view metric types, and has a metric selector that allows the viewer to select a preferred view metric type to present sorted and filtered performance information.

25. The performance monitoring system as claimed in claim 22, wherein:  
the loader has a function that calculates scores based on the received data and the performance information stored in the KPI store to indicate changes in the KPIs, and  
the viewer driven sorter and filter has a function that sorts and filters the performance information based on the scores calculated based on the changes in the KPIs.

27. A method of monitoring business performance, the method comprising:  
receiving data from one or more data sources;

transforming the received data into performance information relating to Key Performance Indicators (KPIs);

storing the performance information into a KPI store;

calculating scores based on the received data and the performance information stored in the KPI store to indicate changes in the KPIs such that the scores indicate if associated KPIs are getting better or worse or unchanged;

loading the performance information including the scores into the KPI store;

receiving a user input; and

presenting the performance information to a user in a selected order based on the user input, using relevant KPIs sorted and/or filtered based on a selected type of scores of the KPIs, to allow the user to monitor and analyze the performance information using the scores, wherein receiving data comprises receiving a target value and an actual value for a KPI, and wherein calculating scores comprises calculating a score for the KPI based on the actual value and the target value to indicate if the KPI is good, bad or neutral compared to the target value, and calculating another score by comparing the calculated score and a previously calculated score for a previous comparison of a previous actual value to the target value, the previously calculated score being calculated and stored in the KPI store at a previous loading, so that the another score indicates if the KPI is getting better, worse, or is unchanged.

33. The method as claimed in claim 27, wherein presenting the performance information comprises presenting a higher level of the performance information in a form capable of breaking down into a lower level of the performance information.

34. The method as claimed in claim 27, wherein receiving data from the one or more data sources makes available data that has changed from a last loading.

35. The method as claimed in claim 27, wherein:

receiving data from the one or more data sources comprises receiving value information for the KPIs and time information relating to one or more time periods to which the value information is applied;

calculating scores comprises determining which value information is affected by a change in the value information; and

storing the performance information comprises storing the value information in association with the time information, actual values, target values and score values for the KPIs in a relational cube having the time and indicator dimensions, and business metadata as a network of content of the metadata.

40. The method as claimed in claim 27 wherein presenting the performance information comprises:

presenting the performance information of a selected KPI together with related KPIs which are in a cause and effect relation with the selected KPI, and presenting the performance information of related KPIs in a diagram to navigate the user through the related KPIs.

45. A method of monitoring performance comprising:

receiving data from one or more data sources;

storing, in a KPI store, performance information relating to Key Performance Indicators (KPIs);

transforming the received data into the performance information relating to the KPIs;

loading the performance information including scores into the KPI store wherein the scores indicate if associated KPIs are getting better or worse or unchanged; and

presenting the performance information to a viewer, allowing the viewer to sort and/or filter the performance information using the scores of all or some of the KPIs stored in the KPI store, wherein receiving data comprises receiving a target value and an actual value for a KPI, and wherein transforming the received data comprises calculating a score for the KPI based on the actual value and the target value to indicate if the KPI is good, bad or neutral compared to the target value, and calculating another score by comparing the calculated score and a previously calculated score for a previous comparison of a previous actual value to the target value, the previously calculated score being calculated and stored in the KPI store at a previous loading, so that the another score indicates if the KPI is getting better, worse, or is unchanged.

47. The method as claimed in claim 45, wherein presenting the performance information comprises allowing the viewer to add to or modify annotation to the performance information, and wherein storing performance information comprises storing the annotation in the KPI store.

49. The method as claimed in claim 47, wherein presenting the performance information comprises providing options of multiple view metric types, and allowing the viewer to select a preferred view metric type to present sorted/filtered performance information.

50. The method as claimed in claim 49, wherein:

loading the performance information comprises calculating scores based on the received data and the performance information stored in the KPI store to indicate changes in the KPIs; and

presenting the performance information comprises allowing the viewer to sort and filter the performance information based on the changes in the KPIs.

52. A computer readable medium storing the instructions and/or statements for use in the execution in a computer of a method of monitoring business performance, the method comprising:

receiving data from one or more data sources;

transforming the received data into performance information relating to Key Performance Indicators (KPIs);

storing the performance information into a KPI store;

calculating scores based on the received data and the performance information stored in the KPI store to indicate changes in the KPIs such that the scores indicate if associated KPIs are getting better or worse or unchanged;

loading the performance information including the scores into the KPI store;

receiving a user input; and

presenting the performance information to a user in a selected order based on the user input, using relevant KPIs sorted and/or filtered based on a selected type of scores of the KPIs so as to allow the user to monitor and analyze the performance information using the scores, wherein receiving data comprises receiving a target value and an actual value for a KPI, and wherein calculating scores comprises calculating a score for the KPI based on the actual value

and the target value to indicate if the KPI is good, bad or neutral compared to the target value, and calculating another score by comparing the calculated score and a previously calculated score for a previous comparison of a previous actual value to the target value, the previously calculated score being calculated and stored in the KPI store at a previous loading, so that the another score indicates if the KPI is getting better, worse, or is unchanged.

55. The method as claimed in claim 27, wherein presenting the performance information comprises allowing the user to add to or modify annotation to the performance information, and wherein storing the performance information comprises storing the annotation in the KPI store.

## EVIDENCE APPENDIX

Figure 23 of Thompson (U.S. Patent No. 6,668,253):

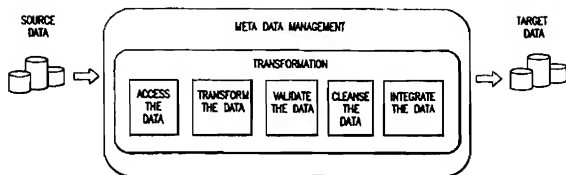


FIG.23

**RELATED PROCEEDINGS APPENDIX**

NONE